Remarks/Arguments

In the Office Action mailed on 20 October 2005, the Examiner rejected all remaining claims 1-6, 8-14, and 16-19 under 35 U.S.C. §103(a) as unpatentable over Matsushita (United States Patent Number 6,504,270).

Applicants respectfully traverse the Examiner's §103 rejection and request reconsideration and withdrawal thereof.

§103 Rejection

The Examiner rejected all remaining claims 1-6, 8-14, and 16-19 under §103 as unpatentable over Matsushita. The Examiner repeated essentially the same rejection language of the earlier §102 rejection noting this time that Matsushita does not teach a full wave rectifier "at the output of the transformer". The Examiner then suggests it would be obvious to use a full wave rectifier such as rectifier 4 in his figure 1 in place of the half wave rectifier 48 on the output side of Matsushita's transformer 22. The Examiner suggests one of ordinary skill in the art would be so motivated "in order to provide full wave rectification with one element functions during positive half-cycles and the other during negative half-cycles."

As a preliminary matter, the Examiner's suggested motivation for such a substitution is improper. Such a substitution has no reasonable expectation of success in the structure of Matsushita and thus is an improper modification to Matsushita. Even assuming, *arguendo*, that the proposed modification to Matsushita teaches the claimed invention (which Applicant strongly disputes), the proposed modification without more would render the structure of Matsushita inoperable - e.g., there is no reasonable expectation of success with this simple proposed modification to Matsushita. Replacing half wave rectifier with a full wave rectifier in the context of the signals applied to the transformer 22 would not be operable to perform the functions of Matsushita.

Motivation to modify Matsushita aside and more importantly, the Examiner's reading of the rejected claims on Matsushita (even with the proposed modification) is simply incorrect to the extent Applicant can follow the proposed reading. As noted in the

earlier response, the Examiner sometimes does not cite specific features of specific claims as reading on specific elements in the teachings of Matsushita but generally points to various components of the circuits of Matsushita shown in figures 1-7 as showing each feature of the rejected claims. In other cases, the Examiner asserts that an element is connected to another element of Matsushita as claimed in the rejected claims but such a connected structure is simply not found in the reference. The Examiner's rejection for all claims is reproduced herein below (as it relates to claim 1) in italics with Applicant's responsive comments interspersed between portions of the rejection language. The Examiner starts by stating:

> *"Matsushita teach the claimed invention except for a full wave rectifier at the output of the transformer. ..."*

Applicant respectfully disagrees with this conclusion. Matsushita fails to teach many of the structural aspects of the claims as discussed further below. The Examiner continues:

> *"... Matsushita disclose an uninterruptible switching regulator in Figs. 1-7. A DC output stage that outputs a predetermined DC electrical power (+12), ..."*

The Examiner fails to point to the particular element in the figures of Matsushita that shows the recited DC output stage of the rejected claims. This failure is critical in that the recited structure of the rejected claims interconnecting the recited input stages with the recited output stage is simply not present in Matsushita. However, the Examiner seems to read past the clear structural distinctions based on this imprecise reading of a DC output stage in the Matsushita figures. Applicant generally acknowledges that some portion of Matsushita's structures represents an output structure that provides a predetermined DC voltage such as the "+12V" applied to the "CPU BOARD" of figure 4. The most reasonable reading of Matsushita is that the recited output stage may be read as secondary drive circuit 25 coupled to winding N2 of transformer 22. The Examiner goes on stating:

> *"... an AC input stage (1) connected to the DC output stage (+12 V, -12 V and +5 V, see Fig. 4), with the AC input stage (1) configured to convert AC electrical power at the AC input stage into the predetermined DC electrical power (4) available at the DC output stage, ..."*

Here the Examiner begins to drift in his reading suggesting "connections" that are simply not present in the teachings of Matsushita. The Examiner reads the recited AC input stage as AC power supply 1 of Matsushita. However claim 1, for example, clearly recites that the AC input stage is "connected to the DC output stage". Clearly AC power supply 1 of Matsushita is not connected to any element of Matsushita that could be reasonably read as the recited DC output stage. As noted above, the Examiner has not yet precisely stated what element of Matsushita is to be read as the recited DC output stage. However it is clear that AC power supply 1 is not connected to secondary drive circuit 25 (the most reasonable element to read as a DC output stage). The only element AC power supply 1 is connected to is rectifier 4. Asserting that rectifier 4 could be the recited DC output stage is nonsensical at best. Further, if rectifier 4 were considered to be the DC output stage, then there is no DC input stage coupled thereto (another aspect of the recited structure of claim 1).

Further, claim 1 continues with respect to the recited AC input stage stating "with the AC input stage configured to convert AC electrical power at the AC input stage into the predetermined DC electrical power available at the DC output stage; and ..." AC power supply 1 (even if considered in combination with rectifier 4) of Matsushita does not convert the AC power to the DC electrical power available at the DC output stage. Rather, AC power supply 1 of Matsushita generates and AC waveform that is rectified by rectifier 4 to generate a DC waveform which is, in turn, applied to further circuits of AC-side RCC circuit 21 to generate a different AC waveform which is in turn applied to winding N1 of transformer 22. Nothing in this structure of Matsushita teaches or reasonably suggests an AC input stage as claimed that converts the AC power into the predetermined DC electrical power available at the DC output stage. Once again, the Examiner's imprecise reading of the DC output stage and the AC input stage on various disjoint elements of Matsushita simply fails to teach or reasonably suggest the structure of, for example, rejected claim 1.

The Examiner continues in his reading of claim 1 on Matsushita stating:

"... a DC input stage (26) connected to the DC output stage, with the DC input stage configured to convert DC electrical power at the DC input stage into the predetermined DC electrical power (50) available at the DC output stage, ..."

Similar to his reading of Matsushita's AC power supply 1 as an AC input stage, the Examiner now reads battery 26 of Matsushita as the recited DC input stage. As above with respect to the AC input stage, battery 26 is not connected to any element that could be reasonably understood as the DC output stage. As noted above, the Examiner has not yet precisely stated what element of Matsushita is to be read as the recited DC output stage. Battery 26 is connected only to other elements of battery-side RCC circuit 69, not for example connected to secondary drive circuit 25 (the most reasonable element to read as a DC output stage).

Finally the Examiner now suggests in his rejection some specific structure of Matsushita that he reads as the recited DC output stage.

"... the DC output stage comprises at least one capacitor (49) across a DC positive output terminal and a DC ground output terminal (+12 V, -12 V and +5 V, see Fig. 4), ..."

Now the Examiner seems to suggest that the DC output stage comprises a capacitor 49 in Matsushita's figure 4. As already discussed, whatever the Examiner reads as a DC output stage must be connected to both the AC input stage and the DC input stage. The Examiner's reading of the AC input stage as AC power supply 1 and the DC input stage as battery 26 is inconsistent with the structural recitation of claim 1 that they each connect to the DC output stage which is now apparently read by the Examiner as a capacitor 49 in Matsushita's figure 4.

Further and more importantly, the DC output stage as recited in claim 1 receives the predetermined DC electrical power from both the AC input stage and the DC input stage. Capacitor 49 does not receive any DC power from AC power supply 1 or from battery 26. Rather, capacitor 49 of Matsushita receive DC power from a rectifier (half wave rectifier 48) coupled to the output winding N2 of transformer 22. The Examiner is simply ignoring the intervening circuits between AC power supply 1 and capacitor 49 of

Matsushita which comprise very different structure from the recited structure of, for example, rejected claim 1.

Most importantly, claim 1 distinguishes from the structure taught or reasonably suggested by Matsushita in that the AC input stage must be a structure connected to the DC output stage and the AC input stage must be configured to convert AC power applied thereto into the predefined DC electrical power available the DC output stage. Similarly, the claimed DC input stage must be connected to the DC output stage and must convert DC power applied thereto into the predetermined DC electrical power available at the DC output stage. Though Matsushita is admittedly performing a similar overall function (namely: generating DC power from either an AC input supply or a DC input supply), it does so with very different structure than that which is claimed in, for example, rejected claim 1.

By contrast to the structure of claim 1, the AC-side RCC circuit 21 of Matsushita (the only reasonable reading of an AC input stage) generates an AC electrical signal applied to winding N1 of transformer 22 - it does not generate the predetermined DC electrical power. The battery-side RCC circuit 69 of Matsushita (the only reasonable reading of a DC input stage) also generates an AC electrical signal applied to winding N3 of transformer 22. Secondary drive circuit 25 of Matsushita (the only reasonable reading of a DC output stage) receives an AC electrical signal induced in winding N2 of transformer 22 and rectifies (whether half-wave as indicated or full wave as postulated by the Examiner) the received AC signal to generate a DC electrical power (e.g., the +12V signal applied to the interface 58 and other DC power levels derived from the +12V signal). This structure is very different from that of, for example, rejected claim 1.

Independent claim 1 is therefore maintained to be distinguished from the teachings of Matsushita (and all prior art of record whether considered individually or in any combination). Independent claim 10 was rejected for similar reasons and includes similar structures to those of claim 1. Independent claim 10 is therefore maintained to be allowable for at least the same reasons as claim 1.

Independent claim 18 recites a method including steps related to a structure such as recited in claims 1 and 10. In particular, claim 18 includes (in essence) converting an AC source to a predetermined DC level and converting a DC source to an AC signal and then to the predetermined DC level to thus generate a predetermined DC electrical power from either an AC input or from a DC input. The steps as recited are not performed within the teachings of Matsushita nor are they suggested therein. As above, Matsushita performs a similar overall function but in a very different way. An AC source (AC power supply 1) is converted to DC and then to AC for application to a transformer 22. A DC source (battery 26) is converted to AC for application to transformer 22. A DC output stage (25) then receives the induced AC signal from the transformer and rectifies the signal to generate a predetermined DC power signal. This method is very different from that of rejected claim 18. The rejected method is therefore neither taught nor reasonably suggested by Matsushita (nor any art of record considered individually or in any combination). Therefore, claim 18 is maintained to be allowable over all art of record.

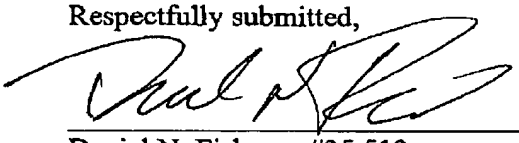
Remaining dependent claims 2-6, 8-9, 11-14, 16-17, and 19 are also maintained to be allowable for at least the same reasons and as dependent from allowable base claims. Applicant respectfully requests reconsideration and withdrawal of the rejection of all remaining claims.

Conclusion

Applicant has thoroughly discussed the Examiner's §103 rejection, has traversed that rejection, and has requested reconsideration and withdrawal of same.

No additional fees are believed due. Should any issues remain, the Examiner is encouraged to telephone the undersigned attorney.

Respectfully submitted,



Daniel N. Fishman #35,512
Duft Bornsen & Fishman, LLP
1526 Spruce Street, Suite 302
Boulder, CO 80302
(303) 786-7687
(303) 786-7691 (fax)